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1882

1882.—N° 555.

Specification.

*Specification of an Improved Process for the Manufacture of Condensed Grape Juice, &c.*

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said Ferdinand Springmühl in the Great Seal Patent Office on the 4th August 1882.

FERDINAND SPRINGMÜHL, M.D. Ph.D., of Gower Street, in the County of Middlesex. "AN IMPROVED PROCESS FOR THE MANUFACTURE OF CONDENSED GRAPE JUICE OR MUST."

This Invention relates to an improved process for the manufacture of condensed grape juice or must and in carrying the same into effect I press fresh grapes and treat the juice thereby obtained in centrifugal machines, passing it then through proper wire sieves and heating the so obtained pure grape juice slightly in steam heated vessels.

I then evaporate eighty or more per cent. of its water in a vacuum pan of a construction similar to that described in the Specification of Letters Patent granted to me No. 554, dated the fourth day of February, one thousand eight hundred and eighty two for "An Improved Method of and Apparatus for Concentrating Milk" which allows of the evaporation being effected at a temperature less than one hundred degrees Fahrenheit and enables me to cool the condensed juice after the condensation without bringing it in contact with the air.

The lens shaped vessels with which the vacuum pan is provided being immersed up to rather more than about one third their depth in the grape juice at the commencement of the process and the axle being slowly revolved, the rotation will continually raise the grape juice and discharge it on to the surface of the said lens shaped vessels.

During the process of concentration these vessels being heated by steam will accelerate the process of evaporation and at the same time cause the production of a very homogeneous article.

When the concentration is brought to the desired degree the vacuum in the inside of the apparatus is maintained as high as possible and the double bottom of the vacuum pan having a stream of cold water passing continually through it, a similar stream is made to pass through the lens-shaped vessels which revolving at a slightly increased speed quickly reduce the concentrated grape juice to the desired temperature. It will be seen that thus the necessary cooling process is performed in vacuo so that the grape juice is not brought into contact with the air until the whole process is complete.

By the herein-before described process the bulk of the juice is brought down to about one fourth, one fifth or other proportion of its original weight, and this condensation renders the juice fit for transportation and preservation in any climate. The grape juice thus condensed preserves all the best qualities of the fresh must, especially its wine making qualities. After being regenerated and subjected to fermentation it will produce wine similar to that which would have been produced from the fresh juice.

Having thus described my said Invention and the manner of performing the same I wish it to be understood that I do not claim broadly the manufacture of condensed grape juice by evaporation in vacuo at a low temperature but what I do claim is:—

Firstly. In the manufacture of condensed grape juice or must, first treating the juice in a centrifugal machine and then slightly heating the same before evaporating the water therefrom as described.

Secondly. In the manufacture of condensed grape juice or must, treating the juice, previously prepared as described, in a vacuum pan provided with lens shaped



*Springmühl's Improved Process for the Manufacture of Condensed Grape Juice, &c.*

vessels and a hollow axle, for the purpose of evaporating the water therefrom at a temperature less than one hundred degrees Fahrenheit and subsequently cooling the condensed juice in the same apparatus substantially in the manner and for the purposes described.

5 In witness whereof I the said Ferdinand Springmühl have hereto set my hand and seal this Third day of August in the year of our Lord One thousand eight hundred and eighty two.

FERDINAND SPRINGMÜHL (L.S.)

LONDON: Printed by GEORGE E. B. EYRE and WILLIAM SPOTTISWOODS,  
Printers to the Queen's most Excellent Majesty:  
For Her Majesty's Stationery Office.

1882.